**T01D07 - Ideal Gas Law Practice Worksheet**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*The following equations can be derived from the relationship of the variables Volume (V), Moles (n), Temperature (T), and Pressure (P).*

**Units must be in the following:**

Volume(V) =

Moles(n) =

Temperature(T) =

Pressure(P) =

Constant(R) =

*Solve the following problems using the ideal gas law:*

1) How many moles of gas does it take to occupy 120 liters at a pressure of 2.3 atmospheres and a temperature of 340 K?

2) If I have a 50 liter container that holds 45 moles of gas at a temperature of 2000 C, what is the pressure inside the container?

3) It is not safe to put aerosol canisters in a campfire, because the pressure inside the canisters gets very high and they can explode. If I have a 1.0 liter canister that holds 2 moles of gas, and the campfire temperature is 14000 C, what is the pressure inside the canister?

4) How many moles of gas are in a 30 liter scuba canister if the temperature of the canister is 300 K and the pressure is 200 atmospheres?

5) I have a balloon that can hold 100 liters of air. If I blow up this balloon with 3 moles of oxygen gas at a pressure of 1 atmosphere, what is the temperature of the balloon?